

Patent claims

1. A card-processing apparatus (10), comprising a card tray (16), a card-transporting device (13, 14, 15),
5 a device (52) for sensing the position or detention of a card (18, 18a) in the card tray (16) and a holding device (28, 30, 32, 38) for a card (18a) that has stopped in an irregular manner in the card tray (16) due to manipulation of the card-processing apparatus (10), which is activated if a
10 change in the position of the card (18a) is not detected even though a conveying signal has been issued to the card-conveying device (13, 14, 15).
- 15 2. The card-processing apparatus (10) as claimed in claim 1, the holding device of which has at least one gripper (30), which is brought into contact with one of the sides of the card when the holding device (28, 30, 32, 38) is activated, presses the
20 card (18a) against a counter-bearing and is provided with a great holding force with respect to the card (18a) in relation to a pulling-out force.
- 25 3. The card-processing apparatus (10) as claimed in claim 2, in which the counter-bearing is a counter-gripper (32) located opposite the gripper (30) and acting on the second side of the card.
- 30 4. The card-processing apparatus (10) as claimed in claim 2 or 3, the gripper (30, 32) of which has in the region that comes into contact with the surface of the card a high friction coefficient with respect to the card.
- 35 5. The card-processing apparatus (10) as claimed in claim 2 or 3, the gripper (30, 32) of which is provided in the region that comes into contact with the surface of the card with at least one

tooth-like point (38), which is able to dig into the surface of the card, at least when a pulling-out force is applied.

5 6. The card-processing apparatus (10) as claimed in one of claims 2 to 5, the gripper (30) and/or counter-gripper (32) of which is formed as an eccentric which is attached in a rotationally fixed
10 manner to a shaft (34, 36), which can be rotated about its axis by an electromechanical drive (46), and is adjustable by said shaft between a position releasing the card tray (16) and a holding position, the shaft lying ahead of the region where the eccentric is in contact with the card (18a), as
15 seen in the drawing-in direction of the card-processing apparatus (10).

7. The card-processing apparatus (10) as claimed in claim 6, the eccentric of which is an arcuately
20 formed arm, one end of which is rotationally fixed to the shaft (34; 36) and the other, free end (28) of which is provided with the region having the high friction coefficient or with the at least one tooth-like point (28).

25 8. The card-processing apparatus (10) as claimed in at least one of claims 2 to 5, the gripper(s) and/or counter-gripper(s) of which is (are) formed in the manner of a lever, is (are) adjustable between a
30 position releasing the card tray (16) and a holding position and can be placed at such an angle against the surface(s) of the card that the holding force exerted on the card (18a) increases as the expended pulling-out force increases.

35 9. The card-processing apparatus (10) as claimed in one of claims 2 to 5, in which a plurality of grippers (30)

and/or counter-grippers (32) are distributed over the width of the card tray (16).

- 5 10. The card-processing apparatus (10) as claimed in at least one of the preceding claims, in which all the grippers (30) and/or counter-grippers (32) can be brought jointly into the card tray (16), but the depth of penetration of the individual grippers (30) and/or counter-grippers (32) into the card
- 10 tray (16) is independent of the other grippers and/or counter-grippers.
- 15 11. The card-processing apparatus (10) as claimed in claims 7 and 10, the grippers (30, 32) of which consist of an elastic material and have a progressive modulus of elasticity.
- 20 12. The card-processing apparatus (10) as claimed in claim 1, the holding device of which has at least one bolt, which is brought into contact with one of the sides of the card and penetrates the card when holding device is activated.